

1. (Amended) A method of inspecting the state of completeness of the formation of a large number of holes formed in a wafer sample by directing a charged-particle beam to the sample and obtaining resulting signals, said method comprising the steps of:

establishing measurement regions containing holes on the sample;

directing said charged-particle beam to the measurement regions on the sample containing the holes;

detecting an electrical current flowing through the wafer sample to ground for each of said measurement regions;

finding data about a current distribution on the sample from detected values of electrical current; and

displaying a brightness-based map on a display unit according to said found data about the current distribution.

3. (Amended) The method of claim 1, wherein the regions irradiated with said charged-particle beam are located in identical positions within periodic patterns formed on said sample.

Please add new claim 8.

8. A nondestructive method of inspecting the state of completeness of the formation of a large number of holes formed in a wafer sample by directing a charged-particle beam to the sample and obtaining resulting signals, said method comprising the steps of:

establishing measurement regions containing holes on the sample such that size and positions of said measurement regions are so set that plural holes are present within

each of said measurement regions and the regions are located in identical positions within periodic patterns formed on said sample;

directing said charged-particle beam to the measurement regions on the sample containing the holes;

detecting an electrical current flowing through the wafer sample to ground for each of said measurement regions;

finding data about a current distribution on the sample from detected values of electrical current; and

displaying a brightness-based map on a display unit according to said found data about the current distribution.

REMARKS

Claims 1 to 8 remain in the case. Claim 1 has been amended to make clear that the signal detected is based on the current flowing through the wafer sample to ground during irradiation with a scanning electron beam. Support for this amendment in the specification is found at page 4, lines 8-10 and page 6, lines 1-2. The amendment clearly distinguishes secondary electron currents emitted back through space to a secondary electron detector or secondary ions emitted back through space to a secondary ion mass spectrometer (SIMS).

Claim 3 has been amended to set forth that identical positions within periodic (repetitive) patterns on the wafer sample are tested. Support for this amendment is set forth at page 6, lines 13-14 in the specification.

The Examiner has rejected claims 1 to 7 under 35 U.S.C. § 103(a) as being unpatentable over Liu et al. U.S. Patent No. 6,037,588 in view of Lee et al. U.S. Patent No. 5,953,579. With regard to claim 1, the Examiner states:

As per claim 1, Liu [588] teaches a method of inspecting the state of a large number of holes formed in a